

What is claimed is:

1. An uninterruptible power supply device for supplying power to a load and charging floatingly to a storage battery from a converter  
5 connecting to a alternating current power source, with the degradation judgment circuit of the storage battery, comprising;

a control circuit for controlling an output voltage of the converter to lower below a steady state, the storage battery thus to discharge at a more limited current than the rated current thereof, and the converter to  
10 supply a part of load current to the load; and

a judgment circuit for judging the degradation of the storage battery based on the discharge voltage of the limited discharge current.

2. An uninterruptible power supply device for supplying power to a  
15 load and charging floatingly to a storage battery from a converter connecting to a alternating current power source, with the degradation judgment circuit of the storage battery, comprising;

a control circuit for controlling an output voltage of the converter to lower below a steady state, the storage battery thus to discharge at a  
20 more limited current than the rated current thereof, and the converter to supply a part of load current to the load; and

a judgment circuit judges the degradation of the storage battery based on a charging time of the storage battery from when controlling, by the control circuit, the converter to return the output voltage to the  
25 steady state until completing full charge state thereof.

3. The uninterruptible power supply device according to claim 1 or 2,

wherein said converter is a rectifier and said load includes a direct-alternating current inverter in addition to a whole load apparatus.

4. The uninterruptible power supply device according to claim 1 or 2,  
5 wherein said converter is a rectifier and a direct-alternating current inverter is connected on midway between the storage battery and the load.

5. The uninterruptible power supply device according to claim 1 or 2,  
10 wherein said converter comprises a mutual transducer of direct and alternating current, which connects to the power source in parallel with the load, and which connects the storage battery thereto.

6. The uninterruptible power supply device according to claim 1 or 2,  
15 wherein said converter comprises a transducer of alternating and direct current which connects to the power source in parallel with the load, and which connects the storage battery and a direct-alternating current inverter.

20 7. The uninterruptible power supply device according to claim 1 or 2, wherein said limited discharge current of the storage battery, by controlling the output voltage of the converter to lower below the steady state, is almost constant what is equivalent to 10-50 % of the maximum current of the load.

25

8. The uninterruptible power supply device according to claim 1 or 2, wherein said control circuit connects to a trigger signal source which

comprises memory memorized an operational schedule of the degradation judgment, and the converter starts to lower the output voltage at the timing of the trigger signal and the storage battery then starts to discharge.

5

9. The uninterruptible power supply device according to claim 1 or 2, wherein said converter and said control circuit comprise a rectifier for obtaining a direct current from the alternating current power source, and a closing loop for bringing the voltage of the direct current close to an appointed direct current voltage with a pulse duration modulation control for an alternating input voltage of itself.

10. The uninterruptible power supply device according to claim 1, wherein said degradation judgment circuit comprises a comparator for comparing between an appointed value of a direct current voltage from the control circuit and the discharge voltage of the storage battery.

11. The uninterruptible power supply device according to claim 1, wherein said degradation judgment circuit comprises an integration circuit for integrating with a voltage difference between the appointed value of the direct current voltage from the control circuit and a discharge voltage of the storage battery, and a comparator for comparing between the output voltage of the integration circuit and a standard voltage.

25

12. The uninterruptible power supply device according to claim 2, wherein said degradation judgment circuit comprises a timer for

measuring the charge time of the storage battery.

- 13. The uninterruptible power supply device according to claim 2,  
• wherein said degradation judgment circuit comprises a timer connecting  
5 to a comparator for comparing a charging current of the storage battery  
with a of base current.